

Mr. Michael Berkoff Remedial Project Manager USEPA Region 5 77 West Jackson Boulevard (SRF-6J) Chicago, Illinois 60604-3507 6723 Towpath Road
P.O. Box 66
Syracuse
New York 13214-006

ARCADIS

New York 13214-0066 Tel 315.446.9120 Fax 315.449.0017 www.arcadis-us.com

ENVIRONMENT

Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 Remedial Design Progress Report #26 (November 1 to 30, 2012)

Dear Michael:

Attached is the 26th progress report for the Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 (WB/A-Site OU) Remedial Design/Remedial Action. This progress report is submitted in accordance with Paragraph 31, Reporting Requirements, of the 2009 Consent Decree (CD) for the Design and Implementation of Certain Response Actions at Operable Unit 2 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Civil Action Number 1-09-cv-429).

As agreed, ARCADIS submitted progress reports once every three months throughout the remedial design phase. ARCADIS started submitting monthly progress reports when construction began at the WB/A-Site OU on May 30, 2011. This 26th progress report describes activities/tasks performed between November 1 and 30, 2012.

If you have any questions, please do not hesitate to contact me.

Sincerely,

ARCADIS

Pat McGuire

Project Coordinator

Date:

December 11, 2012

Contact:

Pat McGuire

Phone:

315.671.9233

Email

pat.mcguire@arcadisus.com

Our ref:

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ARCADIS

Mr. Michael Berkoff

December 11, 2012

Copies:

James Saric, USEPA Nicole Wood, Esq., USEPA Leslie Kirby-Miles, Esq., USEPA Anthony Audia, USEPA Paul Bucholtz, MDEQ Kristi Zakrzewski, P.E., MDEQ Judith Alfano, MDEQ Sharon Hanshue, MDNR Lisa Williams, Ph.D., USFWS Todd Goeks, NOAA Jessica Winters, NOAA Polly Synk, Esq., Dept. of Attorney General Jeff Keiser, P.E., CH2M HILL Scott Hutsell, P.E., CH2M HILL Garry Griffith, P.E., Georgia-Pacific LLC Zachary Melda, Georgia-Pacific LLC Richard Gay, Weyerhaeuser Company Martin Lebo, Ph.D., Weyerhaeuser Company Kathryn Huibregtse, P.E., ENVIRON International Corp. Michael Erickson, P.E., ARCADIS

PROGRESS REPORT FOR THE ALLIED PAPER, INC./PORTAGE CREEK/ KALAMAZOO RIVER SUPERFUND SITE WILLOW BOULEVARD / A-SITE LANDFILL OPERABLE UNIT 2

REPORT #26 (NOVEMBER 1 TO 30, 2012)

PREPARED BY ARCADIS DECEMBER 11, 2012

ON BEHALF OF GEORGIA-PACIFIC LLC

SUBMITTED TO

MICHAEL BERKOFF, REMEDIAL PROJECT MANAGER UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Significant Developments and Activities During the Period

- On November 1, Georgia-Pacific LLC (Georgia-Pacific) transmitted to the United States
 Environmental Protection Agency (USEPA) the presentation demonstrating the de minimis impact
 groundwater from the WB/A-Site OU has on the Kalamazoo River, which were used during the
 meeting held with the Michigan Department of Environmental Quality (MDEQ) on October 22.
- On November 5, ARCADIS transmitted to Georgia-Pacific, USEPA, MDEQ, and Terra Contracting, LLC (Terra) an agenda for the biweekly progress call scheduled for November 7.
- On November 7, representatives of Georgia-Pacific, ARCADIS, USEPA, MDEQ, and Terra
 participated in the biweekly progress call to discuss construction activities at the Willow Boulevard/ASite Landfill Operable Unit 2 (WB/A-Site OU).
- On November 9, ARCADIS transmitted to USEPA for review Design Notification Nos. 2012-027 (substitution to the project-specified general fill materials for the A-Site Landfill), 2012-028 (Willow Boulevard and A-Site Landfills fence modification), and 2012-029 (alignment of the stormwater drainage outlet channel at the northeast corner of the A-Site Landfill).
- On November 13, ARCADIS transmitted to USEPA the WB/A-Site OU Progress Report No. 25.
- On November 19, USEPA transmitted to ARCADIS the approval for Design Notification No. 2012-024 (Area South of A-Site Berm Confirmation Sampling).
- On November 19, ARCADIS transmitted to Georgia-Pacific, USEPA, MDEQ, and Terra an agenda for the monthly Stakeholders' Meeting scheduled for November 20.
- On November 20, representatives of Georgia-Pacific, ARCADIS, USEPA, MDEQ, and Terra
 participated in the monthly Stakeholder Meeting at the WB/A-Site OU.
- On November 27, ARCADIS transmitted to USEPA a tracking table for the WB/A-Site OU Design Notification.

Data Collected and Field Activities Conducted During the Period

• During the week of November 1, Terra continued construction of the permanent access road on the north side of the A-Site Landfill. On November 1 and 2, Terra prepared the subgrade for the downchute (CV-3 and CV-4) and installed 22.5 degree bends for downchute, porewater, and culvert pipes in the northeast corner of the A-Site Landfill. Also on November 1 and 2, Prein & Newhof conducted an as-built survey on the north side of the A-Site Landfill. From November 1 through 3,

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Terra performed cleaning on Olmstead Road after sand was tracked off site by delivery trucks. Also from November 1 through 3, Terra constructed concrete thrust blocks around pipe bends in the northeast corner of the A-Site Landfill. On November 3, Terra placed Reno mattresses and riprap in the downchute at the northeast corner of the A-Site Landfill. On November 3 and 4, Terra placed a general fill wedge and topsoil on the north slope of the A-Site Landfill. The general fill wedge was placed to support the permanent access road on the A-Site Landfill. On November 4, Terra graded the perimeter ditch to the south of the permanent access road on the north side of the A-Site Landfill. On November 4, Terra placed additional topsoil over the habitat stone on the north side of the A-Site Landfill to create the soil-choked stone feature.

- During the week of November 5, Terra completed placement of non-woven geotextile fabric and riprap between the geosynthetic drainage composite (GDC) and the toe of slope on the south side of the A-Site Landfill. On November 5, Terra continued to place a general fill wedge and topsoil on the north side of the A-Site Landfill. Also on November 5, Terra placed additional topsoil over the habitat stone on the north side of the A-Site Landfill to create the soil-choked stone feature. Terra installed lids on the Reno mattresses in the downchute at the northeast corner of the A-Site Landfill on November 5. From November 5 through 7, Cardno JFNew seeded and installed straw erosion control matting in the southwest corner and on the north slope of the A-Site Landfill. On November 5, 7, and 8, Prein & Newhof conducted an as-built survey of the A-Site Landfill. On November 6, Terra placed topsoil on the north side of the A-Site Landfill. From November 6 through 9, Terra placed a 6-inch thick layer of topsoil on the north edge of the riprap on the south side of the A-Site Landfill (approximately 8 to 10 feet upward from the toe-of-slope). From November 7 through 9, Terra placed a 24-inch thick layer of general fill on the east slope of the A-Site Landfill and confirmed the layer thickness. On November 8, Terra installed the downchute inlet at the northeast corner of the A-Site Landfill.
- On November 9, ARCADIS collected samples of general fill and topsoil (W70977 and W70978) and forwarded to TestAmerica Laboratories, Inc. (TestAmerica) for polychlorinated biphenyl (PCB) and non-PCB analysis. Details are provided in Table A.
- During the week of November 13, Terra placed a non-woven geotextile fabric and habitat stone at the toe of slope in the northeast corner and eastern side of the A-Site Landfill, followed by a layer of topsoil over the habitat stone to create the soil-choked stone feature. On November 13, Terra demobilized miscellaneous construction items from the site. From November 13 through 15, Cardno JFNew seeded and installed straw erosion control mat over the soil-choked stone on the north side of the A-Site Landfill. From November 14 through 16, Terra placed a 24-inch thick layer of general fill over the exposed GDC on the south slope of the A-Site Landfill and confirmed the layer thickness. From November 14 through 17, Terra placed a 6-inch thick layer of topsoil between the toe of slope and the permanent access road on the south side of the A-Site Landfill. On November 16, Cardno JFNew overseeded and installed straw erosion control matting on the Willow Boulevard Landfill to the

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100-year flood elevation (riparian corridor). On November 16 and 17, Terra removed debris/weeds from the culvert inlet/outlet and sandbags from the Willow Boulevard Landfill. On November 17, Terra confirmed the thickness of the topsoil layer on the south slope using grade stakes and survey data. Also on November 17, Terra prepared the subgrade for the downchute at the southeast corner of the A-Site Landfill.

- On November 15 and 16, ARCADIS collected two backfill samples of general fill (W70979 and W70980, respectively) and forwarded to TestAmerica for PCB and non-PCB analysis. Details are provided in Table A.
- During the week of November 19, Terra placed a 6-inch thick layer of topsoil on the west side of the A-Site Landfill plateau area and confirmed the layer thickness. On November 19, Terra prepared the subgrade and placed linear low density polyethylene geomembrane for the downchute in the southeast corner of the A-Site Landfill. Also on November 19, Terra completed removal of debris/weeds from the culvert inlet/outlet and sandbags from the Willow Boulevard Landfill. On November 19 and 20, Prein & Newhof conducted an as-built survey of the A-Site Landfill. From November 19 through 21, Terra placed a general fill wedge between the permanent access road and the soil-choked stone on the east side of the A-Site Landfill. Also from November 19 through 21, Cardno JFNew seeded and installed straw erosion control matting on the south slope of the A-Site Landfill. On November 20, Terra and ARCADIS removed the remaining posts that were used to support the turbidity curtains and turbidity monitors from the Kalamazoo River. On November 20 and 21, Terra prepared the subgrade and placed Reno mattresses and lids for the downchute in the southeast corner of the A-Site Landfill. On November 23 and 24, Terra graded the perimeter ditch on the A-Site Landfill.
- During the week of November 26, Terra continued to place a 6-inch thick layer of topsoil on the west side of the A-Site Landfill plateau area and confirmed the layer thickness. From November 26 through 29, Terra continued to grade the perimeter ditch on the A-Site Landfill. On November 26 and 27, Cardno JFNew overseeded and installed straw erosion control matting on the Willow Boulevard Landfill to the 100-year flood elevation. On November 27 and 28, D-K Fence started installation of the chain-link fence on the Willow Boulevard Landfill. On November 28, Cardno JFNew seeded and installed straw erosion control matting along the eastern slope of the A-Site Landfill to the 100-year flood elevation. From November 28 through 30, Prein & Newhof conducted an as-built survey of the A-Site Landfill. On November 29 and 30, Terra constructed the perimeter berm on the plateau area of the A-Site Landfill. Also on November 29 and 30, Cardno JFNew seeded and installed straw erosion control matting in the perimeter ditch on the A-Site Landfill. On November 30, Terra placed and graded topsoil in the western portion of the Area South of A-Site Berm. Also on November 30, D-K Fence completed the installation of the wire mesh and 12-foot wide access gate for the perimeter fencing around the river side of the Willow Boulevard Landfill.

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Laboratory Data Received During the Period

- On November 6, ARCADIS received analytical results for one backfill sample (W70971) from TestAmerica. Unvalidated results are provided in Table A.
- On November 16, ARCADIS received analytical results for one backfill sample (W70972) from TestAmerica. Unvalidated results are provided in Table A.
- On November 28, ARCADIS received analytical results for four backfill samples (W70973 through W70976) from TestAmerica; however, VOC analytical results for backfill sample W70976 were received on November 29. Unvalidated results are provided in Table A.
- On November 29, ARCADIS received analytical results for two backfill samples (W70977 and W70978) from TestAmerica; however, ARCADIS did not receive VOC analytical results for these samples.
- ARCADIS awaits VOC analytical results from TestAmerica for two backfill samples (W70977 and W70978). ARCADIS also awaits PCB and non-PCB analytical results from TestAmerica for two backfill samples W70979 and W70980.

Issues Encountered and Actions Taken

- During the month of November, dust monitoring was not conducted due to saturated conditions across the site. Note that dust monitoring is only performed on days when construction is active.
- From November 10 through 12, construction activities were not conducted at the WB/A-Site OU due to inclement weather (rain).

Developments Anticipated During the Next Reporting Period

- In December, construction activities are scheduled to continue in the A-Site Landfill with construction
 of the permanent access road, continued installation of the topsoil layer, and restoration activities on
 the A-Site Landfill and in the Area South of A-Site Berm.
- Biweekly progress calls with representatives of ARCADIS, Georgia-Pacific, USEPA, MDEQ, CH2M
 HILL, and Terra are not expected during the month of December.
- The next monthly Stakeholder Meeting is currently scheduled for December 19, with WB/A-Site OU
 groundwater monitoring program as the focus of the meeting.

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- Terra anticipates completion of construction activities for the season in December 2012.
- In December 2012, ARCADIS is scheduled to submit the WB/A-Site OU Draft Interim Construction Completion Report documenting the closure activities completed at the Willow Boulevard Landfill.
- In December 2012, USEPA approval of Design Notification 2012-028 (Willow Boulevard and A-Site Landfills fence modification) is anticipated.
- In the first quarter of 2013, ARCADIS is scheduled to submit a revised groundwater monitoring plan to USEPA and MDEQ.

Georgia-Pacific LLC Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2

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<u>Table A — Summary of Samples Collected and Data Received in November 2012</u>

Sample ID	Sample Date	Data Received	Laboratory	Sample Description	Analysis Conducted	Analyte Result ¹	Action Limit ²	Unit	Response Action/Notes
					Backfill Samp				
					Total Aroclor PCBs	0.018 U	0.33	mg/kg	None
					Arsenic	15.7	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. ⁴
					Barium	30.7	37000	mg/kg	None
					Cadmium	0.098 J	550	mg/kg	None
					Chromium	7.6	2500	mg/kg	None
W70971	10/08/12	11/6/12		General Fill	Lead	11.5	400	mg/kg	None
					Mercury	0.058 B	160	mg/kg	None
					Selenium	0.89 J	2600	mg/kg	None
					Methylene Chloride	0.059 JB	1300	mg/kg	None
					bis(2-Ethylhexyl)phthalate	0.031 JB	2800	mg/kg	None
					TPH (DRO)	2.9 JB	650	mg/kg	None
					Solids	92.9	NA	%	None
		11/16/12	TAL 6/12	General Fill	Total Aroclor PCBs	0.019 U	0.33	mg/kg	None
					Arsenic	12.5	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. ⁴
					Barium	39.7	37000	mg/kg	None
					Cadmium	0.12 J	550	mg/kg	None
W70972	10/16/12				Chromium	8.5	2500	mg/kg	None
					Lead	11.8	400	mg/kg	None
					Mercury	0.023 JB	160	mg/kg	None
					bis(2-Ethylhexyl)phthalate	0.035 J	2800	mg/kg	None
					TPH (DRO)	4.9 JB	650	mg/kg	None
					Solids	90	NA	%	None
					Total Aroclor PCBs	0.018 U	0.33	mg/kg	None
	10/25/12	11/28/12		General Fill	Arsenic	12.5	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. ⁴
					Barium	35.6	37000	mg/kg	None
W70973					Chromium	9.8	2500	mg/kg	None
					Lead	11.5	400	mg/kg	None
					Mercury	0.019 JB	160	mg/kg	None
					TPH (DRO)	3.2 J	650	mg/kg	None
					Solids	90.1	NA	%	None

Georgia-Pacific LLC Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 Progress Report #26

<u>Table A — Summary of Samples Collected and Data Received in November 2012</u>

Sample ID	Sample Date	Data Received	Laboratory	Sample Description	Analysis Conducted	Analyte Result ¹	Action Limit ²	Unit	Response Action/Notes
					Backfill Samples	³ (Cont.)			
					Total Aroclor PCBs	0.018 U	0.33	mg/kg	None
					Arsenic	36.2	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. 4
					Barium	19.2	37000	mg/kg	None
14/70074				0 157	Chromium	9.6	2500	mg/kg	None
W70974				General Fill	Lead	13.6	400	mg/kg	None
					Mercury	0.010 JB	160	mg/kg	None
					Bromomethane	0.035 JB	320	mg/kg	None
			TAL		TPH (DRO)	6.8 J	650	mg/kg	None
				,	Solids	90	NA	%	None
					Total Aroclor PCBs	0.018 U	0.33	mg/kg	None
		11/28/12		2S Sand	Arsenic	16.5	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepte. 4
					Barium	10.1 J	37000	mg/kg	None
W70075					Chromium	8.7	2500	mg/kg	None
W70975					Lead	9.7	400	mg/kg	None
	10/29/12				Mercury	0.0052 JB	160	mg/kg	None
					bis(2-Ethylhexyl)phthalate	0.040 J	2800	mg/kg	None
					TPH (DRO)	3.6 J	650	mg/kg	None
					Solids	96.6	NA	%	None
					Total Aroclor PCBs	0.025	0.33	mg/kg	None
					Arsenic	9.3	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. 4
					Barium	55.6	37000	mg/kg	None
					Cadmium	0.25 J	550	mg/kg	None
					Chromium	8.6	2500	mg/kg	None
W70976				Topsoil	Lead	22.4	400	mg/kg	None
					Mercury	0.058 B	160	mg/kg	None
					Dieldrin	0.00090 J	1.1	mg/kg	None
					4,4'-DDE	0.047	45	mg/kg	None
					Endosulfan II	0.00062 J	1400	mg/kg	None
					4,4'-DDD	0.013	95	mg/kg	None
					Endosulfan Sulfate	0.0011 J	NA	mg/kg	None

Georgia-Pacific LLC Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 Progress Report #26

<u>Table A — Summary of Samples Collected and Data Received in November 2012</u>

Sample ID	Sample Date	Data Received	Laboratory	Sample Description	Analysis Conducted	Analyte Result ¹	Action Limit ²	Unit	Response Action/Notes
					Backfill Samples	³ (Cont.)		•	
					4,4'-DDT	0.013	57	mg/kg	None
					gamma-Chlordane	0.0014 J	31	mg/kg	None
					alpha-Chlordane	0.0010 J	31	mg/kg	None
					Fluoranthene	0.061 J	46000	mg/kg	None
					Pyrene	0.058 J	29000	mg/kg	None
					Benzo(b)fluoranthene	0.051 J	20	mg/kg	None
W70976	10/29/12	11/28/12		Topsoil	TPH (DRO)	85	650	mg/kg	None
(Cont.)	10/23/12			Торзоп	Solids	75.5	NA	%	None
					рН	5.84 HF	5.5 - 7.5	pH Unit	None
					Organic Content	13.8	1 - 5	%	None
					Moisture Content	32	NA	%	None
					Ash Content	86.2	NA	%	None
					Fractional Organic Carbon	8	NA	%	None
		11/29/12			Acetone	0.33 J	23000	mg/kg	None
	11/09/12		TAL	General Fill	Total Aroclor PCBs	0.018 U	0.33	mg/kg	None
		11/29/12			Arsenic	11.7	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. 4
					Barium	32.5	37000	mg/kg	None
					Cadmium	0.067 J	550	mg/kg	None
W70977 ⁵					Chromium	8.8	2500	mg/kg	None
					Lead	15	400	mg/kg	None
					Mercury	0.018 JB	160	mg/kg	None
			12		bis(2-Ethylhexyl)phthalate	0.097 J	2800	mg/kg	None
					TPH (DRO)	5.1 J	650	mg/kg	None
					Solids	92.7	NA	%	None
					Total Aroclor PCBs	0.027 U	0.33	mg/kg	None
	11/09/12				Arsenic	10	7.6	mg/kg	Level above residential criteria (7.6 mg/kg), but below non-residential criteria (37 mg/kg), thus accepted. ⁴
					Barium	73.3	37000	mg/kg	None
W70978 ⁵				Topsoil	Cadmium	0.43 J	550	mg/kg	None
					Chromium	10.9	2500	mg/kg	None
					Lead	33.2	400	mg/kg	None
					Mercury	0.059 B	160	mg/kg	None

Georgia-Pacific LLC

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 Progress Report #26

<u>Table A — Summary of Samples Collected and Data Received in November 2012</u>

Sample ID	Sample Date	Data Received	Laboratory	Sample Description	Analysis Conducted	Analyte Result ¹	Action Limit ²	Unit	Response Action/Notes	
	Backfill Samples ³ (Cont.)									
					delta-BHC	0.00025 Jp	NA	mg/kg	None	
					Aldrin	0.00019 Jp	1	mg/kg	None	
					Heptachor epoxide	0.00019 Jp	3.1	mg/kg	None	
					Dieldrin	0.0050 J	1.1	mg/kg	None	
					4,4'-DDE	0.034	45	mg/kg	None	
	11/09/12			Topsoil	Endosulfan II	0.0012 J	1400	mg/kg	None	
		11/29/12	TAL		4,4'-DDD	0.011	95	mg/kg	None	
					Endosulfan Sulfate	0.006	NA	mg/kg	None	
					4,4'-DDT	0.0062	57	mg/kg	None	
					Chlordane	0.015 J	31	mg/kg	None	
W70978 ⁵					gamma-Chlordane	0.0024 J	31	mg/kg	None	
(Cont.)					alpha-Chlordane	0.0019 J	31	mg/kg	None	
(Cont.)					Fluoranthene	0.092 J	46000	mg/kg	None	
					Pyrene	0.068 J	29000	mg/kg	None	
					bis(2-Ethylhexyl)phthalate	0.14 J	2800	mg/kg	None	
					Benzo(b)fluoranthene	0.054 J	20	mg/kg	None	
					TPH (DRO)	72	650	mg/kg	None	
					Solids	62.9	NA	%	None	
					рН	6.54 HF	5.5 - 7.5	pH Unit	None	
					Organic Content	13.4	1 - 5	%	None	
					Moisture Content	34.8	NA	%	None	
					Ash Content	86.6	NA	%	None	
					Fractional Organic Carbon	7.7	NA	%	None	
W70979	11/15/12	NR		General Fill	-	-	-	-	-	
W70980	11/16/12	1410		General Fill	-	i	ı	1	-	

Georgia-Pacific LLC

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Willow Boulevard/A-Site Landfill Operable Unit 2 Progress Report #26

Table A — Summary of Samples Collected and Data Received in November 2012

Notes:

- 1 All presented sample results are unvalidated.
- 2 Analytical results for backfill samples are compared to applicable Part 201 cleanup criteria and Part 213 RBSLs provided in MDEQ's RRD Operational Memorandum No. 1 (Table 2, Column #19, Direct Contact Criteria & RBSLs [http://www.michigan.gov/documents/deq/deq-rrd-OpMemo_1-Attachment1Table2SoilResidential_283553_7.pdf]).
- 3 Backfill samples are analyzed for TCL VOCs, TCL SVOCs, PCBs, Chlorinated Pesticides, TPH (DRO), TPH (GRO), and RCRA Metals. Only detected results are presented for analytes other than PCBs.
- 4 Arsenic analytical results compared to applicable Part 201 cleanup criteria and Part 213 RBSLs provided in MDEQ's RRD Operational Memorandum No. 1 (Table 3, Column #27, Direct Contact Criteria & RBSLs [http://www.michigan.gov/documents/deq/deq-rrd-OpMemo_1-Attachment1Table3SoilCommercial_233124_7.pdf]).
- 5. Analytical results of VOCs for backfill samples W70977 and W70978 were not received in November 2012. Analytical results received (and above detectable limits) are reported herein. Remaining analytical results will be reported in the December 2012 progress report (when received).

B - Compound was found in the blank and sample PCBs	- polychlorinated biphenyls
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DROs - diesel range organics p - The % RPD between the primary and confirmation column/detector is greater than 40%. The lower value has been reported.

GROs - gasoline range organics RBSL - Risk Based Screening Level

HF - analysis was performed in the laboratory outside the RCRA - Resource Conservation and Recovery Act holding time of 15 minutes RRD - Remediation & Redevelopment Division

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value

MDEQ - Michigan Department of Environmental Quality
mg/kg - milligrams per kilogram

TCL - target compound list
TPH - total petroleum hydrocarbons
VOCs - volatile organic compounds

NA - not applicable U - Compound analyzed but not detected at a concentration above the reporting limit

NR - not received - Sample results not yet reported, therefore detected results are not available in this table (see Note 3)